

## ABSTRACT OF THE DISCLOSURE

A technique for measuring spectral components, such as noise and distortion, of a non-coherently sampled test signal containing at least one tone of known frequency  
5 includes modeling the spectral components of the at least one tone, including the effects of leakage, based upon frequency of the at least one tone and a plurality of known sampling parameters. A DFT is taken of the sampled test signal, and the DFT is adjusted based on the modeled spectral components. The adjusted DFT is substantially leakage-free and directly reveals spectral components of the test signal, including low-power  
10 components that would ordinarily be lost in the leakage errors.

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